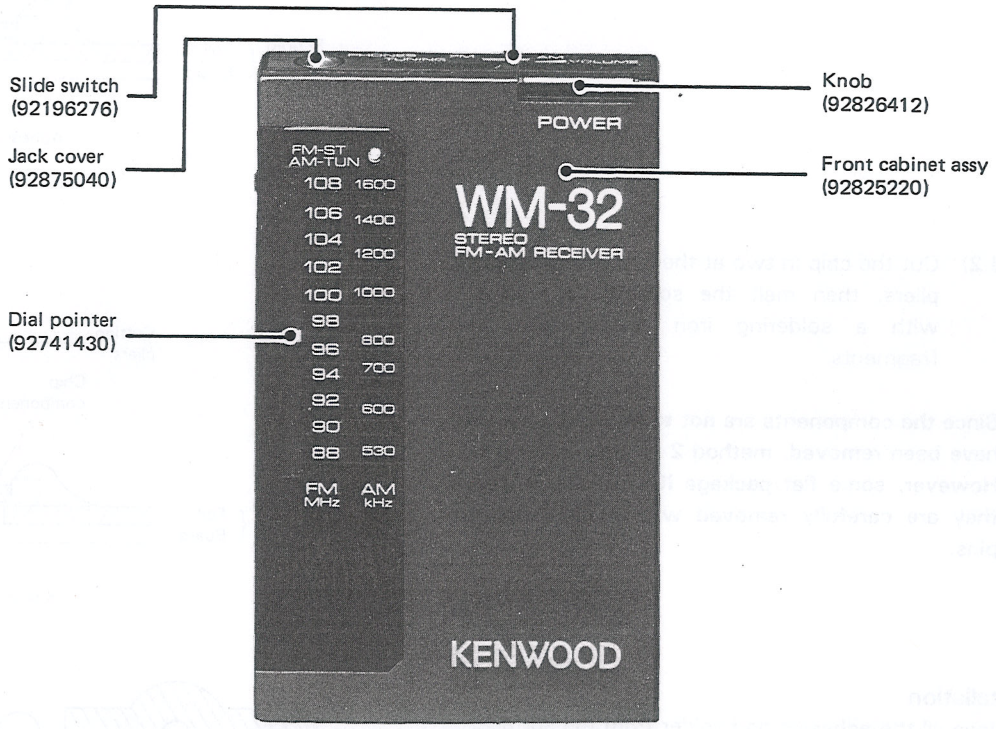
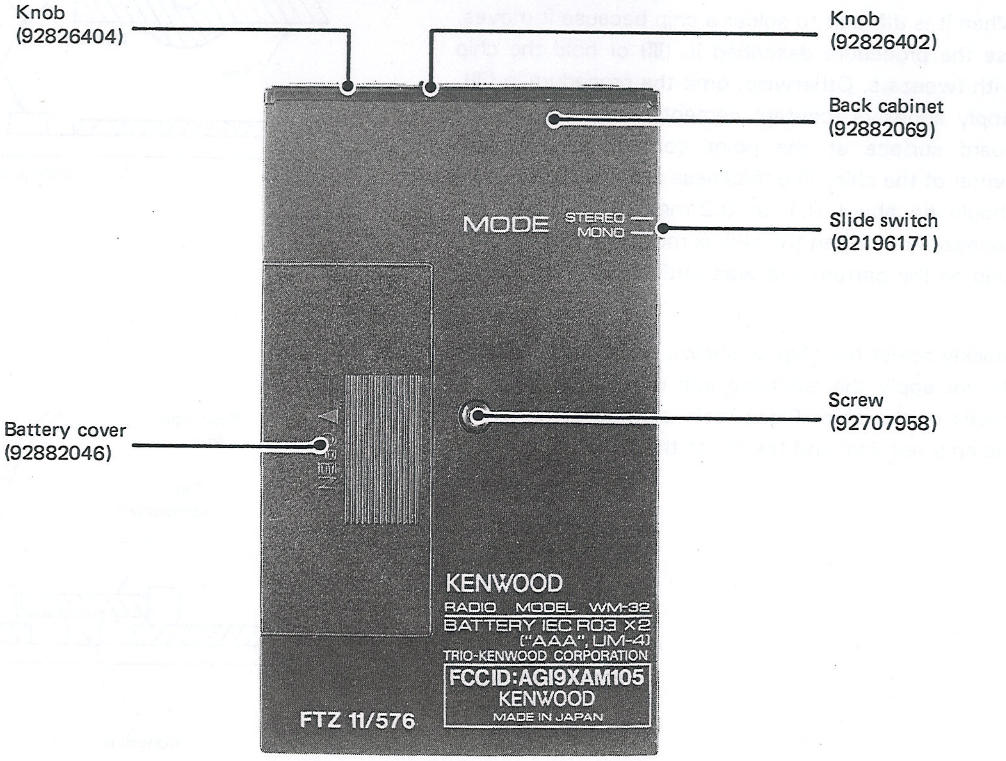
SERVICE MANUAL

KENWOOD

WM-32

STEREO FM-AM RECEIVER

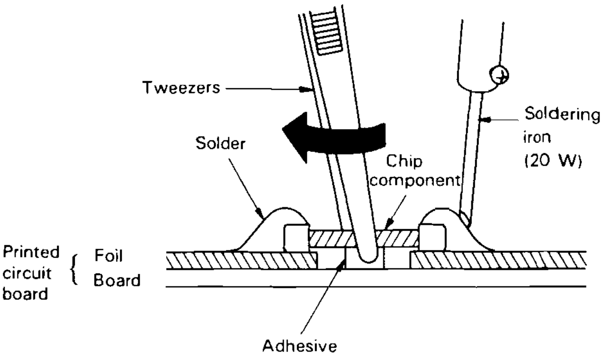

Slide switch (92196276)
Jack cover (92875040)
Dial pointer (92741430)
Knob (92826412)
Front cabinet assy (92825220)
POWER
FM-ST AM-TUN
108 106 104 102 100 98 96 94 92 90 88
1600 1400 1200 1000 800 700 600 530
FM MHz
AM kHz
WM-32
STEREO FM-AM RECEIVER
KENWOOD


Knob (92826404)
Knob (92826402)
Back cabinet (92882069)
Slide switch (92196171)
Screw (92707958)
Battery cover (92882046)
MODE STEREO MONO
KENWOOD
RADIO MODEL WM-32
BATTERY IEC R03 ×2 ("AAA", UM-4)
TRIO-KENWOOD CORPORATION
FCCID:AGI9XAM105
KENWOOD
MADE IN JAPAN
FTZ 11/576

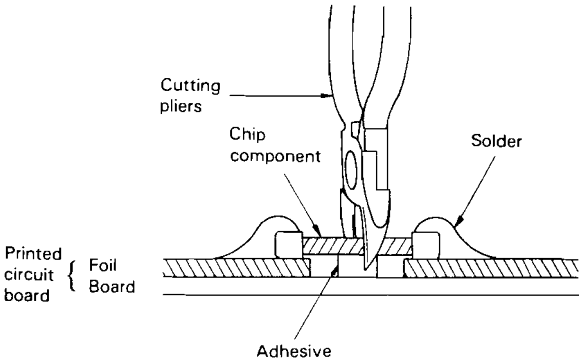
NOTES

1. Removal method

(Method 1) Grip the chip at the center with tweezers. Apply force to rotate it to the right or left while heating the soldered connections of both ends alternately.


Tweezers
Solder
Chip component
Soldering iron (20 W)
Printed circuit board
Foil
Board
Adhesive

(Method 2) Cut the chip in two at the center with cutting pliers, then melt the soldered connections with a soldering iron and remove the fragments.


Cutting pliers
Chip component
Solder
Printed circuit board
Foil
Board
Adhesive

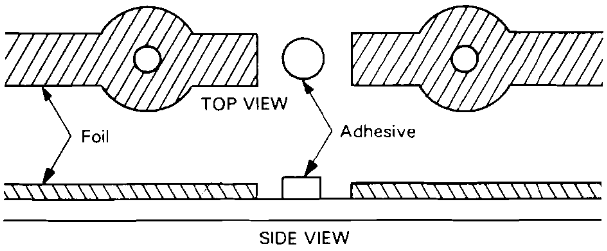
Note: Since the components are not to be used once they have been removed, method 2 is more convenient. However, some flat package ICs can be reused if they are carefully removed without breaking the pins.

2. Installation

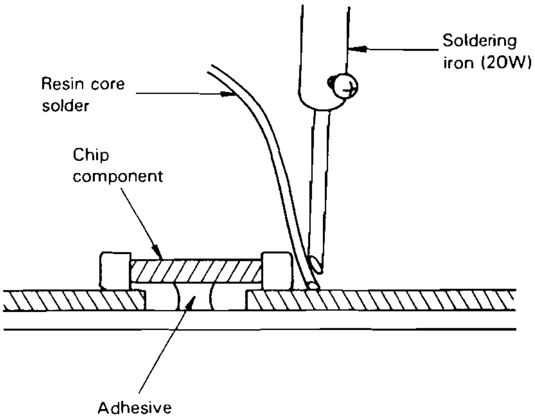
(I) Clean all the adhesive and solder from the surface.

(II) When it is difficult to solder a chip because it moves, use the procedure described in (III) or hold the chip with tweezers. Otherwise, omit the procedure in (III).

(III) Apply adhesive (contact cement or the like) to the board surface at the point corresponding to the center of the chip. The thickness of the adhesive coat should be about 0.1 to 0.2 mm so that it is not squeezed out when the chip is mounted. Put the new chip on the pattern and wait until the cement sets.

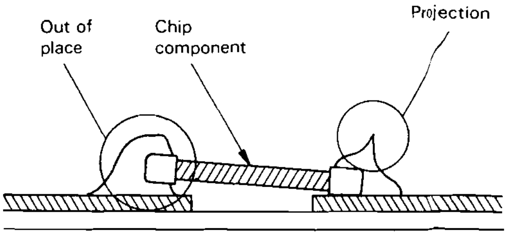

TOP VIEW
Foil
Adhesive
SIDE VIEW

(IV) Quickly solder the chip as shown in the figure below. Do not apply the soldering iron directly to the electrodes of the chip. Place resin core solder between the chip terminal and the tip of the iron.


Soldering iron (20W)
Resin core solder
Chip component
Adhesive

NOTES/DIAL CORD STRINGING

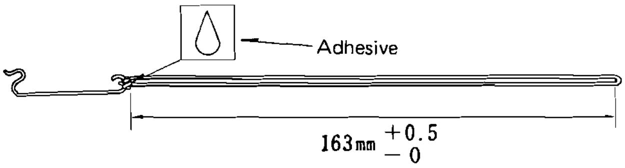
(V) Confirm the following points.
  (1) Ensure that the electrodes of the chip are in contact with the foil.
  (2) Ensure that there are no solder projections. Projections may come in contact with the almunum case, etc., resulting in a short.

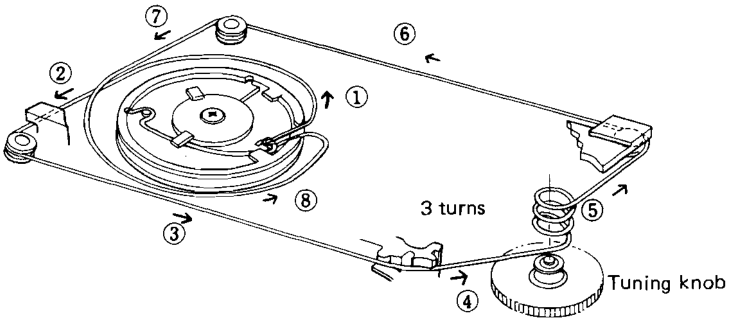

Out of place
Chip component
Projection

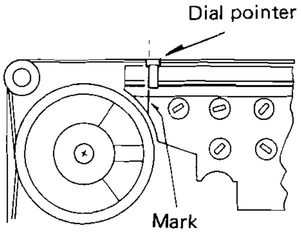
Inproper installation

DIAL CORD STRINGING

1. Tie the end of the dial cord to the spring and fix it with adhesive.
2. Dress the dial cord in the direction ① through ④.
3. Wind the dial cord to the turning knob three turns around the dial pulley counterclockwise.
4. Dress the dial cord ⑤ through ⑧.
5. Turn the tuning knob counterclockwise until it stops.
6. Aline the top of the pointer to the center of the mark, then fix it with adhesive.


Adhesive
163mm +0.5 −0


⑦
⑥
②
①
⑧
3 turns
⑤
③
④
Tuning knob

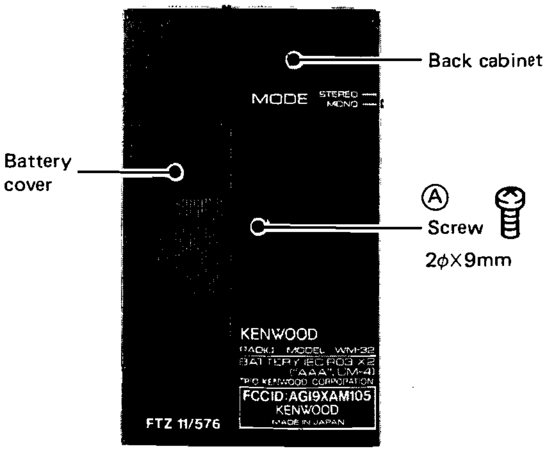

Dial pointer
Mark

DISASSEMBLY FOR REPAIR

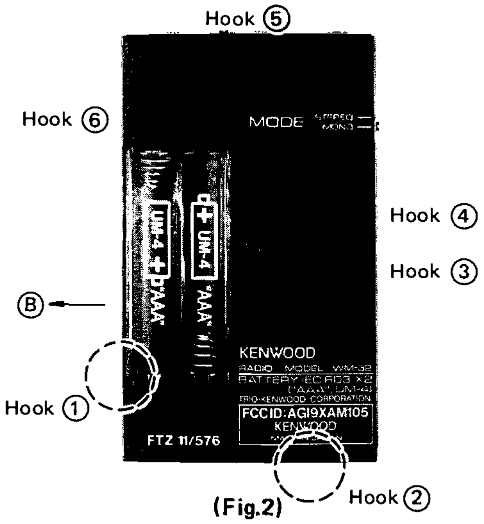
REMOVING THE BACK CABINET

1. Remove the battery cover.
2. Remove a screw Ⓐ securing the back cabinet. (Fig. 1)
3. Back cabinet is fixed to front cabinet with hooks at six points. Detach it in following order. (Fig. 2)
   a. Remove hooks ① and ② by opening the portion Ⓑ in the arrow direction.
   b. Remove the back cabinet to detach the P.C. board.

Note: When assembling, make certain the contact spring wire contacts the front cabinet. (Fig. 3)


Back cabinet
Battery cover
Ⓐ Screw 2φX9mm
MODE STEREO MONO
KENWOOD
RADIO MODEL WM-32
BATTERY IEC R03 ×2 ("AAA", UM-4)
TRIO-KENWOOD CORPORATION
FCCID:AGI9XAM105
KENWOOD
MADE IN JAPAN
FTZ 11/576

(Fig.1)

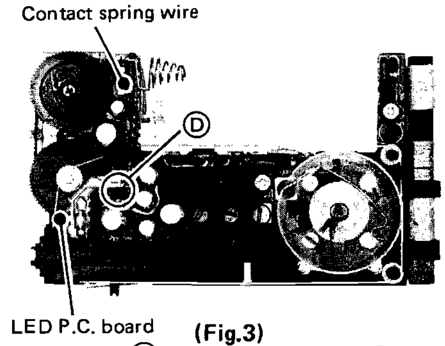

Hook ⑤
Hook ⑥
Hook ④
Hook ③
Ⓑ
Hook ①
Hook ②
MODE
UM-4 "AAA"
KENWOOD
FCCID:AGI9XAM105
FTZ 11/576

(Fig.2)

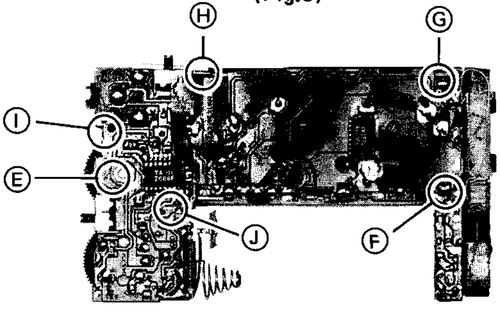
HOW TO OPEN THE CHASSIS FRAME

1. Take off the dial cord.
2. Unsolder the portion Ⓓ to remove the P.C. board. (Fig. 3)
3. Remove the nut Ⓔ . (Fig. 4)
4. Remove the hook Ⓕ . (Fig. 4)
5. Remove the hooks Ⓖ and Ⓗ to open the chassis frame.

Note: When mounting chassis frame on P.C. board, make sure the dowels Ⓘ and Ⓙ get into the opening of the P.C. board.


Contact spring wire
Ⓓ
LED P.C. board

(Fig.3)



(Fig.4)

ADJUSTMENT

NO.	ITEM	INPUT SETTINGS	OUTPUT SETTINGS	TUNER SETTINGS	ALIGNMENT POINTS	ALIGN FOR	FIG.
FM SECTION	Unless otherwise specified the individual switches should be set as follows: MODE : STEREO						
1	IF	Sweep generator: 10.7 MHz Connect a loop antenna (ϕ10 cm) to RF OUT terminal and place it near L003.	Connect TP2 and V terminal of oscilloscope. Connect H OUT of sweep generator and H terminal of oscilloscope.	Near lowest frequency where noise is absent	T104	Turn T103 counterclockwise and detune	(a)
					T101	Maximum amplitude	
					T104	Symmetry of the oscilloscope display	
2	TRACKING (1)	(A) 87.5 MHz 1 kHz ±75 kHz dev 60 dB (ANT input)	(B)	87.5 MHz (Lowest frequency)	L002	Maximum amplitude	
3	TRACKING (2)	(A) 108.0 MHz 1 kHz ±75 kHz dev 60 dB (ANT input)	(B)	108.0 MHz (Highest frequency)	C004	Maximum amplitude	
Repeat alignments 2 and 3 several times.							
4	TRACKING (3)	(A) 90.0 MHz 1 kHz ±75 kHz dev 60 dB (ANT input)	(B)	90.0 MHz	L001	Maximum amplitude	
5	TRACKING (4)	(A) 106.0 MHz 1 kHz ±75 kHz dev 60 dB (ANT input)	(B)	106.0 MHz	C003	Maximum amplitude	
Repeat alignments 4 and 5 several times.							
6	VCO	(A) 98.0 MHz 0 dev 60 dB (ANT input)	Connect a frequency counter to TP3 via the filter (1.50kΩ and 1000 pF) and an AC voltmeter.	98.0 MHz	R204	76.00 kHz	(b)
AM SECTION							
(1)	IF	(D) Sweep generator: 455kHz Connect a loop antenna (ϕ10 cm) to RF OUT terminal and place it near L101.	Connect TP2 and V terminal of oscilloscope. Connect H OUT of sweep generator and H terminal of oscilloscope.	Near highest frequency where noise is absent	T103 T105	Maximum amplitude	(c)
(2)	RF ALIGNMENT (1)	(A) 520 kHz 400 Hz, 30% mod	(B)	520 kHz (Lowest frequency)	L102	Maximum amplitude	
(3)	RF ALIGNMENT (2)	(A) 1650 kHz 400 Hz, 30% mod	(B)	1650 kHz (Highest frequency)	C104	Maximum amplitude	
Repeat alignments (2) and (3) several times.							
(4)	RF ALIGNMENT (3)	(A) 600 kHz 400 Hz, 30% mod	(B)	600 kHz	L101	Maximum amplitude	
(5)	RF ALIGNMENT (4)	(A) 1400 kHz 400 Hz, 30% mod	(B)	1400 kHz	C103	Maximum amplitude	
Repeat alignments (4) and (5) several times.							

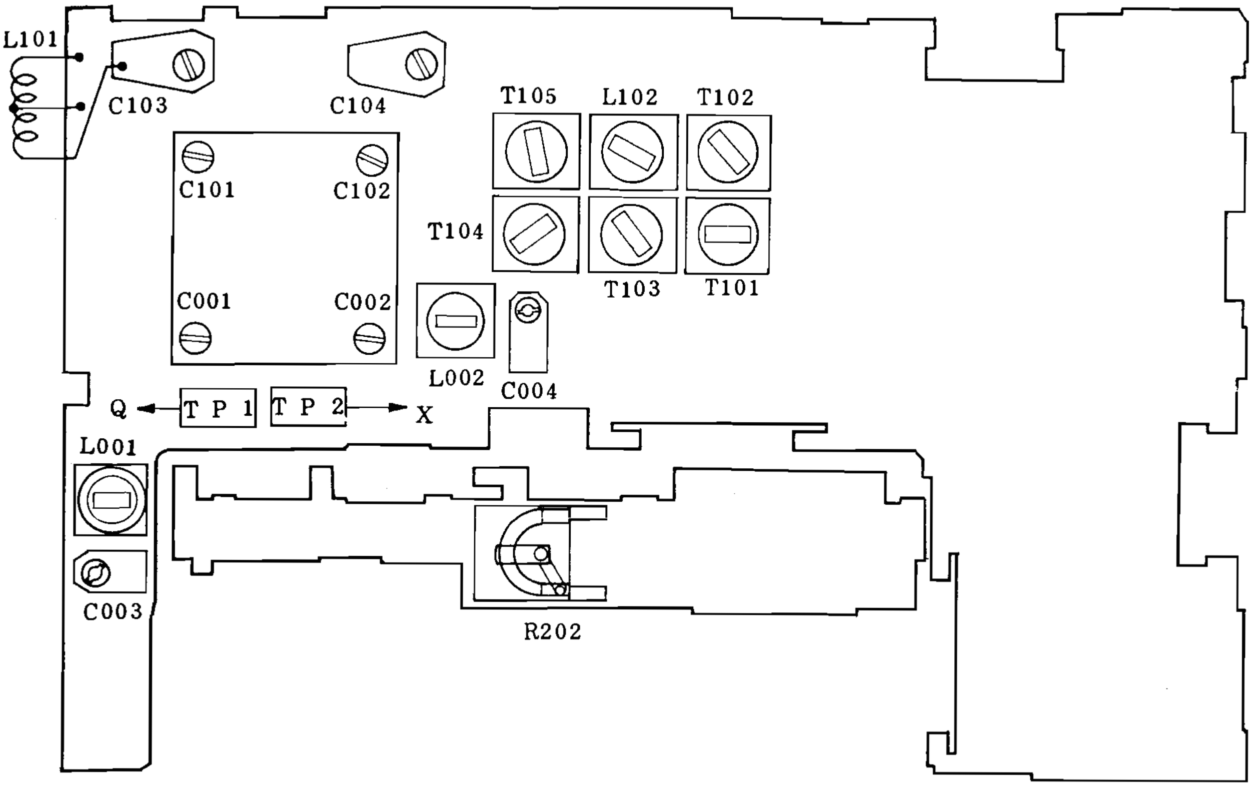
REGLAGES

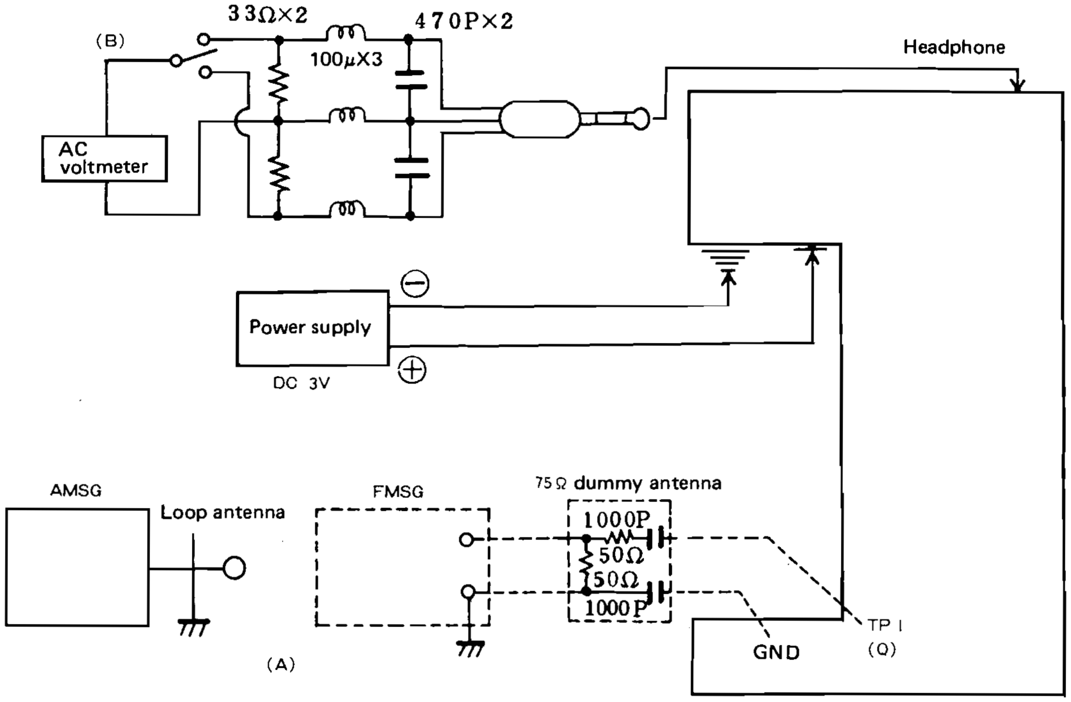
N°	ITEM	REGLAGE DE L'ENTREE	REGLAGE DE LA SORTIE	REGLAGE DU TUNER	POINTS DE L'ALIGNEMENT	ALIGNER POUR	FIG.
SECTION MF	Sauf en cas d'indications spéciales, régler chaque commutateur comme suit: MODE : STEREO						
1	**F.I.**	Générateur de balayage: 10,7 MHz Connecter l'antenne boucle (φ10 cm) à la borne de RF OUT et placer l'antenne boucle près de L003.	Connecter TP2 et la borne V de l'oscilloscope. Connecter la borne H OUT au générateur de balayage et à la borne. H de l'oscilloscope.	Auprès de la fréquence minimale où tout bruitage est absent.	T104	Tourner T103 dans le sens inverse des aiguilles d'une montre et dérègler.	(a)
					T101	Amplitude maximale	
					T104	Symétrie maximale de láffichage de l'oscilloscope	
2	**ALIGNEMENT (1)**	(A) 87,5 MHz 1 kHz ±75 kHz dév 60 dB (Entrée ANT)	(B)	87,5 MHz (Fréquence minimale)	L002	Amplitude maximale	
3	**ALIGNEMENT (2)**	(A) 108,0 MHz 1 kHz ±75 kHz dév 60 dB (Entrée ANT)	(B)	108,0 MHz (Fréquence maximale)	C004	Amplitude maximale	
Répéter les points 2 et 3 plusieurs fois							
4	**ALIGNEMENT (3)**	(A) 90,0 MHz 1 kHz ±75 kHz dév 60 dB (Entrée ANT)	(B)	90,0 MHz	L001	Amplitude maximale	
5	**ALIGNEMENT (4)**	(A) 106,0 MHz 1 kHz ±75 kHz dév 60 dB (Entrée ANT)	(B)	106,0 MHz	C003	Amplitude maximale	
Répéter les point 4 et 5 plusieurs fois							
6	**OSCILLATEUR CONTROLE PAR LA TENSION**	(A) 98,0 MHz 0 dév 60 dB (Entrée ANT)	Connecter un compteur de frequence à TP3 par l'intermediaire du filtre (150 kΩ et 1000 pF) et d'un voltmétre CA.	98,0 MHz	R204	76,00 kHz	(b)
SECTION MA							
(1)	**F.I.**	(D) Générateur de balayage: 455 kHz Connecter l'antenne boucle (φ10 cm) à la borne de RF OUT et placer l'antenne boucle près de L101.	Connecter TP2 et la borne V de l'oscilloscope. Connecter la borne H OUT au générateur de balayage et à la borne H de l'oscilloscope.	Auprès de la fréquence maximale où tout bruitage est absent.	T103 T105	Amplitude maximale	(c)
(2)	**ALIGNEMENT H.T. (1)**	(A) 520 kHz 400Hz, 30% mod	(B)	520 kHz (Fréquence minimale)	L102	Amplitude maximale	
(3)	**ALIGNEMENT H.T. (2)**	(A) 1650 kHz 400 Hz, 30% mod	(B)	1650 kHz (Fréquence maximale)	C104	Amplitude maximale	
Répéter les points (2) et (3) plusieurs fois.							
(4)	**ALIGNEMENT H.T. (3)**	(A) 600 kHz 400 Hz, 30% mod	(B)	600 kHz	L101	Amplitude maximale	
(5)	**ALIGNEMENT H.T. (4)**	(A) 1400 kHz 400 Hz, 30% mod	(B)	1400 kHz	C103	Amplitude maximale	
Répéter les points (4) et (5) plusieurs fois.							

ABGLEICH

NR.	GEGENSTAND	EINGANGS-EINSTELLUNG	AUSGANGS-EINSTELLUNG	TUNER EINSTELLUNG	ABGLEICH-PUNKTE	ABGLEICHEN FÜR	ABB.
UKW-EMPFANGSABTEILUNG Außer wenn anders angegeben, die verschiedenen Schalter wie folgt einstellen: MODE : STEREO							
1	**ZF**	Ablenkgenerator: 10,7 MHz Die Rahmenantenne (ϕ10 cm) zur RF-OUT-Klemme anschließen und stellen sie nahe L103 gelegen.	Das TP2 und V-Klemme des Oszilloskopes anschließen. Das H-OUT-Klemme des Ablenkgeneratores und H-Klemme des Oszilloskopes anschließen.	Nahe Minimalster Frequenz wo kein Rauschen nach abwesend.	**T104**	T103 entgegen dem Uhrzeigersinn drehen und verstimmer.	(a)
					T101	Maximale amplitude	
					T104	Symmetrie des Oszilloskopbildes	
2	**EMPFANGSBEREICH (1)**	(A) 87,5 MHz 1 kHz ±75 kHz Hub 60 dB (ANT-Eingang)	(B)	**87,5 MHz** (Unterst Frequenz)	L002	Maximale amplitude	
3	**EMPFANGSBEREICH (2)**	(A) 108,0 MHz 1 kHz ±75 kHz Hub 60 dB (ANT-Eingang)	(B)	108,0 MHz (Höchst Frequenz)	C004	Maximale amplitude	
Abstimmungen 2 und 3 nehrere Male wiederholen.							
4	**EMPFANGSBEREICH (3)**	(A) 90,0 MHz 1 kHz ±75 kHz Hub 60 dB (ANT-Eingang)	(B)	90,0 MHz	L001	Maximale amplitude	
5	**EMPFANGSBEREICH (4)**	(A) 106,0 MHz 1 kHz ±75 kHz Hub 60 dB (ANT-Eingang)	(B)	106,0 MHz	C003	Maximale amplitude	
Abstimmungen 4 und 5 nehrere Male wiederholen							
6	**SPANNUNGS-GEREGELTER OSZILLATOR**	(A) 98,0 MHz 0 Hub 60 dB (ANT-Eingang)	Eine Frequenzmesser zu TP3 über Filter (150 kΩ und 1000 pF) und einen Wechselspannungsmesser anschließen.	98,0 MHz	R204	76,00 MHz	(b)
MW-EMPFANGSABTEILUNG							
(1)	**ZF**	(D) Ablenkgenerator.: 455 kHz Die Rahmenantenne (ϕ10 cm) zur RF-OUT-Klemme anschließen und stellen sie nahe L101 gelegen.	Das TP2 und V-Klemme des Oszilloskopes anschließen. Das H-OUT-Klemme des Ablenkgeneratores und H-Klemme des Oszilloskopes anschließen.	Nahe Höchst Frequenz wo kein Rauschen nach abwesend.	T103 T105	Maximale amplitude	(c)
(2)	**HF-ABGLEICH (1)**	(A) 520 kHz 400Hz, 30% mod	(B)	520 kHz (Unterst Frequenz)	L102	Maximale amplitude	
(3)	**HF-ABGLEICH (2)**	(A) 1650 kHz 400 Hz, 30% mod	(B)	1650 kHz (Höchst Frequenz)	C104	Maximale amplitude	
Abstimmungen (2) und (3) mehrere Male wiederholen.							
(4)	**HF-ABGLEICH (3)**	(A) 600 kHz 400 Hz, 30% mod	(B)	600 kHz	L101	Maximale amplitude	
(5)	**HF-ABGLEICH (4)**	(A) 1400 kHz 400 Hz, 30% mod	(B)	1400 kHz	C103	Maximale amplitude	
Abstimmungen (4) und (5) mehrere Male wiederholen.							

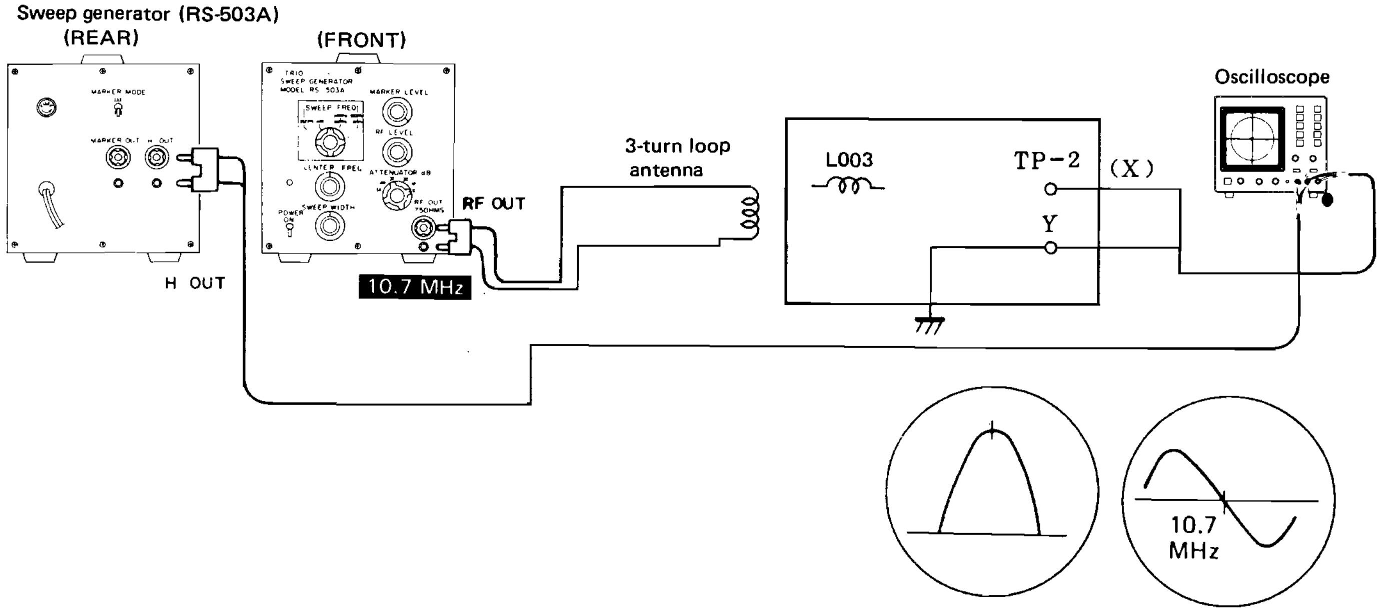
ADJUSTMENT


L101
C103
C104
T105
L102
T102
C101
C102
T104
C001
C002
T103
T101
L002
C004
Q
T P 1
T P 2
X
L001
C003
R202

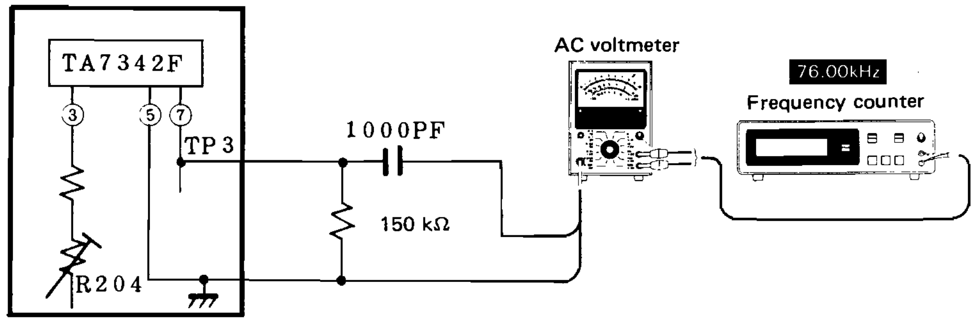

33Ω×2
470P×2
(B)
100μX3
Headphone
AC voltmeter
Power supply
DC 3V
AMSG
Loop antenna
FMSG
75Ω dummy antenna
1000P
50Ω
50Ω
1000P
TP I
(Q)
GND
(A)

ADJUSTMENT

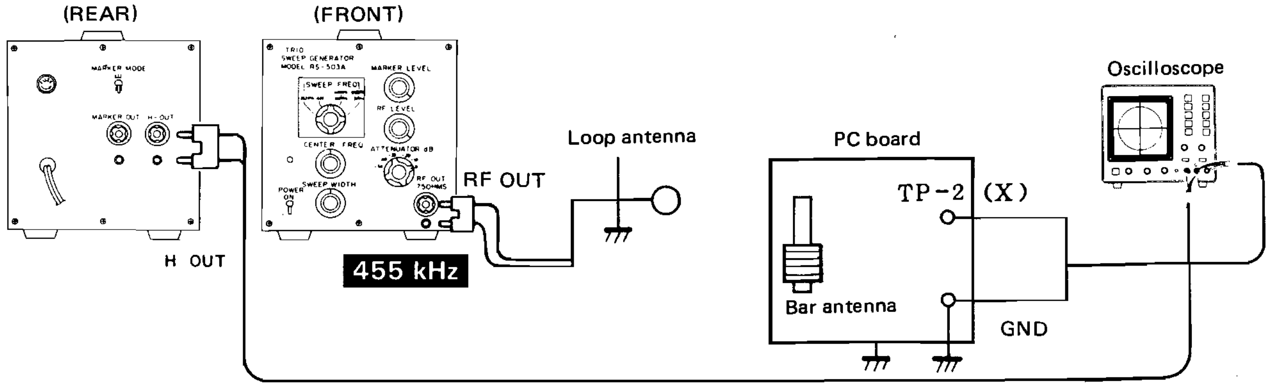
(a)


Sweep generator (RS-503A)
(REAR)
(FRONT)
H OUT
RF OUT
10.7 MHz
3-turn loop antenna
L003
TP-2
(X)
Y
Oscilloscope
10.7 MHz

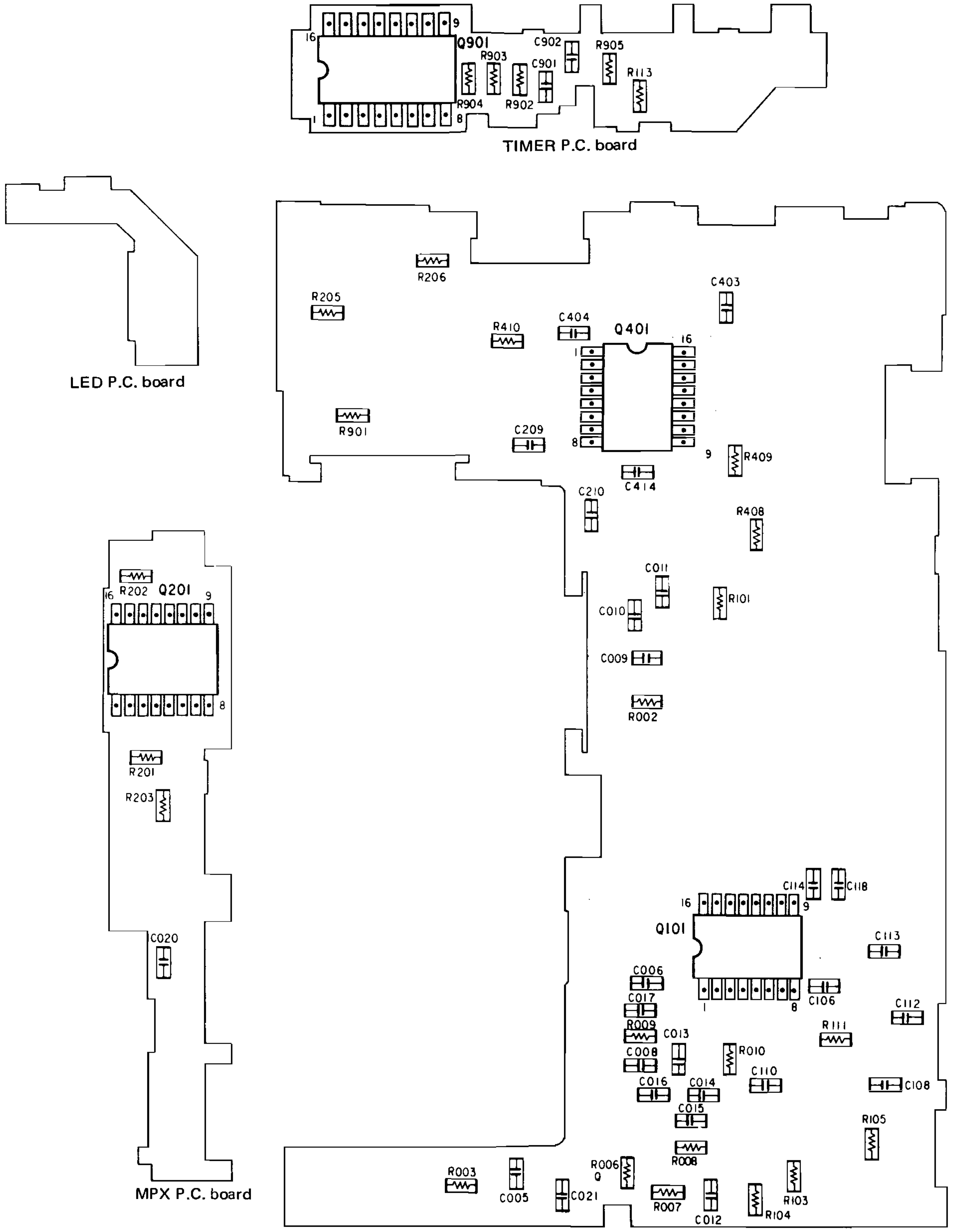
(b)


TA7342F
3
5
7
TP3
R204
1000PF
150 kΩ
AC voltmeter
76.00kHz
Frequency counter

(c)


(REAR)
(FRONT)
H OUT
RF OUT
455 kHz
Loop antenna
PC board
TP-2
(X)
Bar antenna
GND
Oscilloscope

CHIP COMPONENTS LOCATION


Q901
C902
R905
R903
C901
R113
R904
R902
TIMER P.C. board
LED P.C. board
R206
R205
C403
R410
C404
Q401
R901
C209
R409
C414
C210
R408
C011
R101
C010
C009
R002
R202
Q201
MPX P.C. board
R201
R203
C020
C114
C118
Q101
C113
C006
C017
C106
C112
R009
C013
R111
C008
R010
C110
C016
C014
C015
C108
R105
R008
R006
R003
C005
C021
R007
C012
R104
R103

PC BOARD

Switches
1. S101: Band Switch (FM position)
2. S401: Mode Switch (ST position)
3. S402: Power Switch

①~④ flexible printed board
Ⓐ~Ⓩ printed board—printed board direct contact

Exception: from Ⓞ to Ⓟ in wiring.

Q105 / Q106 / Q107

	E	C	B	E	C	B	E	C	B
FM	0V	0.05V	0.64V	0.05V	0.05V	0.7V	0.7V	2.24V	0.05V
AM	0V	2.87V	0.1V	2.87V	2.47V	2.88V	2.88V	2.45V	2.87V

Q102 / Q103 / Q104

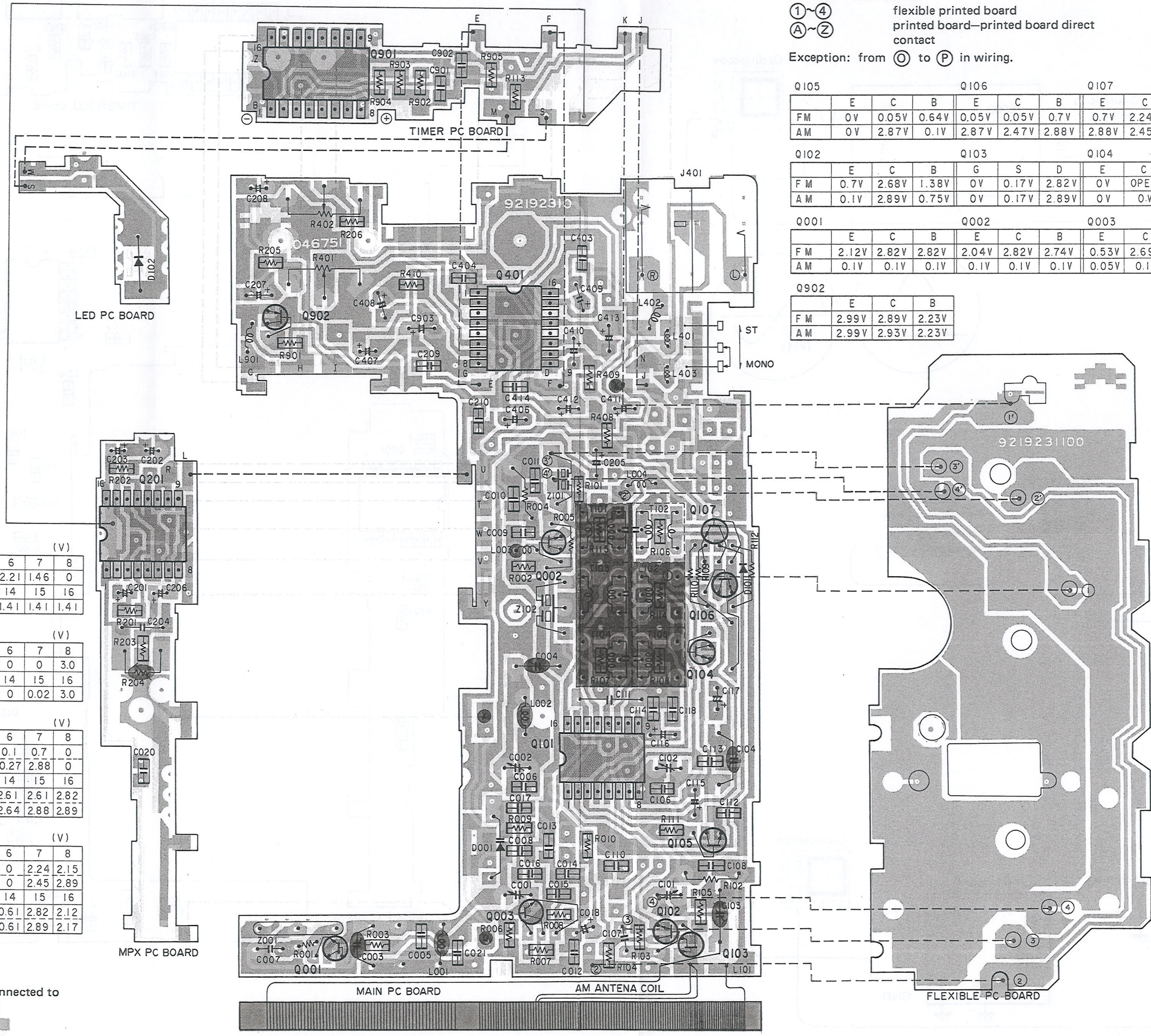
	E	C	B	G	S	D	E	C	B
FM	0.7V	2.68V	1.38V	0V	0.17V	2.82V	0V	OPEN	0.27V
AM	0.1V	2.89V	0.75V	0V	0.17V	2.89V	0V	0.V	0.65V

Q001 / Q002 / Q003

	E	C	B	E	C	B	E	C	B
FM	2.12V	2.82V	2.82V	2.04V	2.82V	2.74V	0.53V	2.69V	1.22V
AM	0.1V	0.1V	0.1V	0.1V	0.1V	0.1V	0.05V	0.1V	0.7V

Q902

	E	C	B
FM	2.99V	2.89V	2.23V
AM	2.99V	2.93V	2.23V



TIMER PC BOARD
LED PC BOARD
MPX PC BOARD
MAIN PC BOARD
AM ANTENNA COIL
FLEXIBLE PC BOARD
J401
ST
MONO
Q901
Q902
Q401
Q201
Q101
Q001
Q002
Q003
Q102
Q103
Q104
Q105
Q106
Q107
D102
9219231
9219231100
04675

Q401 (V)

	1	2	3	4	5	6	7	8
AM/FM	1.41	1.41	1.41	1.41	0.06	2.21	1.46	0
	9	10	11	12	13	14	15	16
AM/FM	2.99	1.47	2.24	2.4	(AM 2.93)	1.41	1.41	1.41

Q901 (V)

	1	2	3	4	5	6	7	8
AM/FM	0	1.63	1.19	1.8	1.19	0	0	3.0
	9	10	11	12	13	14	15	16
AM/FM	2.97	0	3.0	3.0	3.0	0	0.02	3.0

Q101 (V)

	1	2	3	4	5	6	7	8
FM	0.03	0.03	2.82	1.41	1.41	0.1	0.7	0
AM	0.96	0.96	0.1	1.41	1.41	0.27	2.88	0
	9	10	11	12	13	14	15	16
FM	0.93	2.82	2.82	2.82	2.61	2.61	2.61	2.82
AM	1.21	2.89	2.89	2.89	2.64	2.64	2.88	2.89

Q201 (V)

	1	2	3	4	5	6	7	8
FM	2.82	2.82	2.41	0.61	0	0	2.24	2.15
AM	2.89	2.89	2.28	0.61	0	0	2.45	2.89
	9	10	11	12	13	14	15	16
FM	0.94	0.94	0.94	0	0	0.61	2.82	2.12
AM	0.94	0.94	0.94	0	0	0.61	2.89	2.17

Note: ⊣|⊢ Chip Condenser
⊣WW⊢ Chip Resistor

* Parts colored in Green are connected to front pattern (Green pattern)

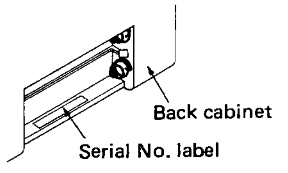
* - - - - - - indicates ●- - - -●
- - - - - - indicates ◗- - - - -

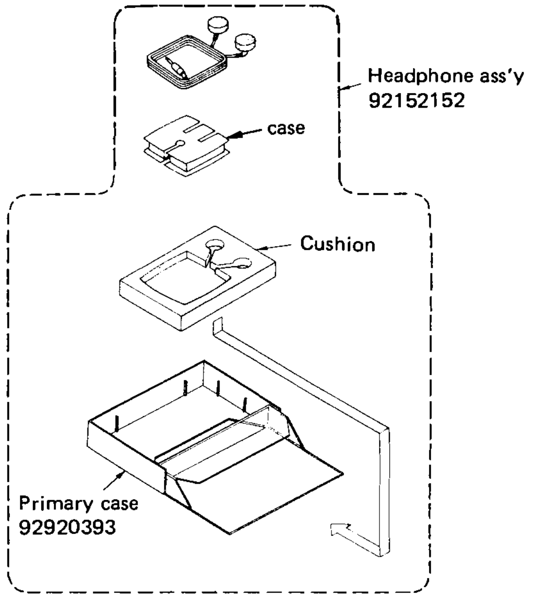
Refer to the schematic diagram for the values of resistors and capacitors.
The PC board drawing is viewed from the side easy to check.

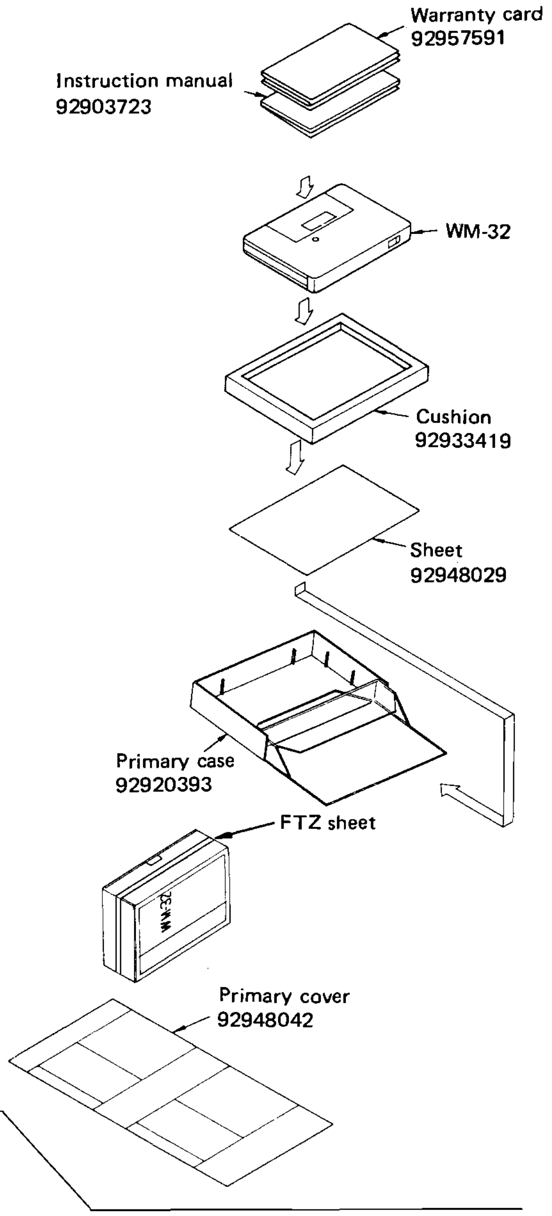
PACKING PROCEDURE

E-type

for Europe


Back cabinet
Serial No. label

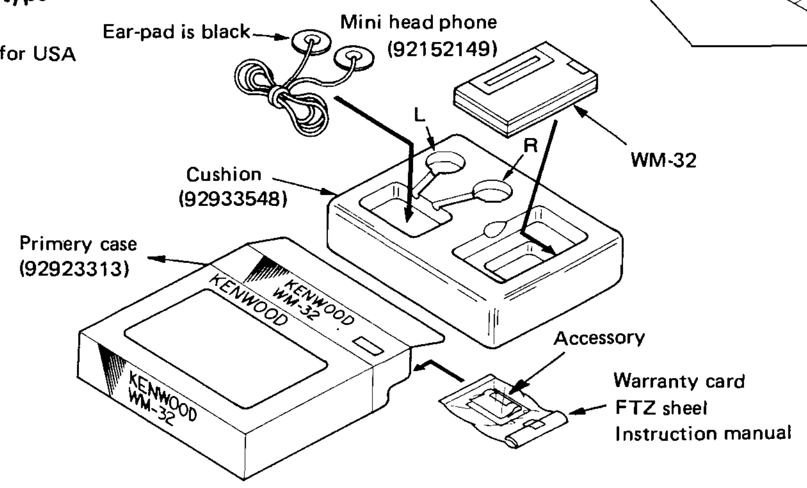

Headphone ass'y
92152152
case
Cushion
Primary case
92920393


Warranty card
92957591
Instruction manual
92903723
WM-32
Cushion
92933419
Sheet
92948029
Primary case
92920393
FTZ sheet
Primary cover
92948042

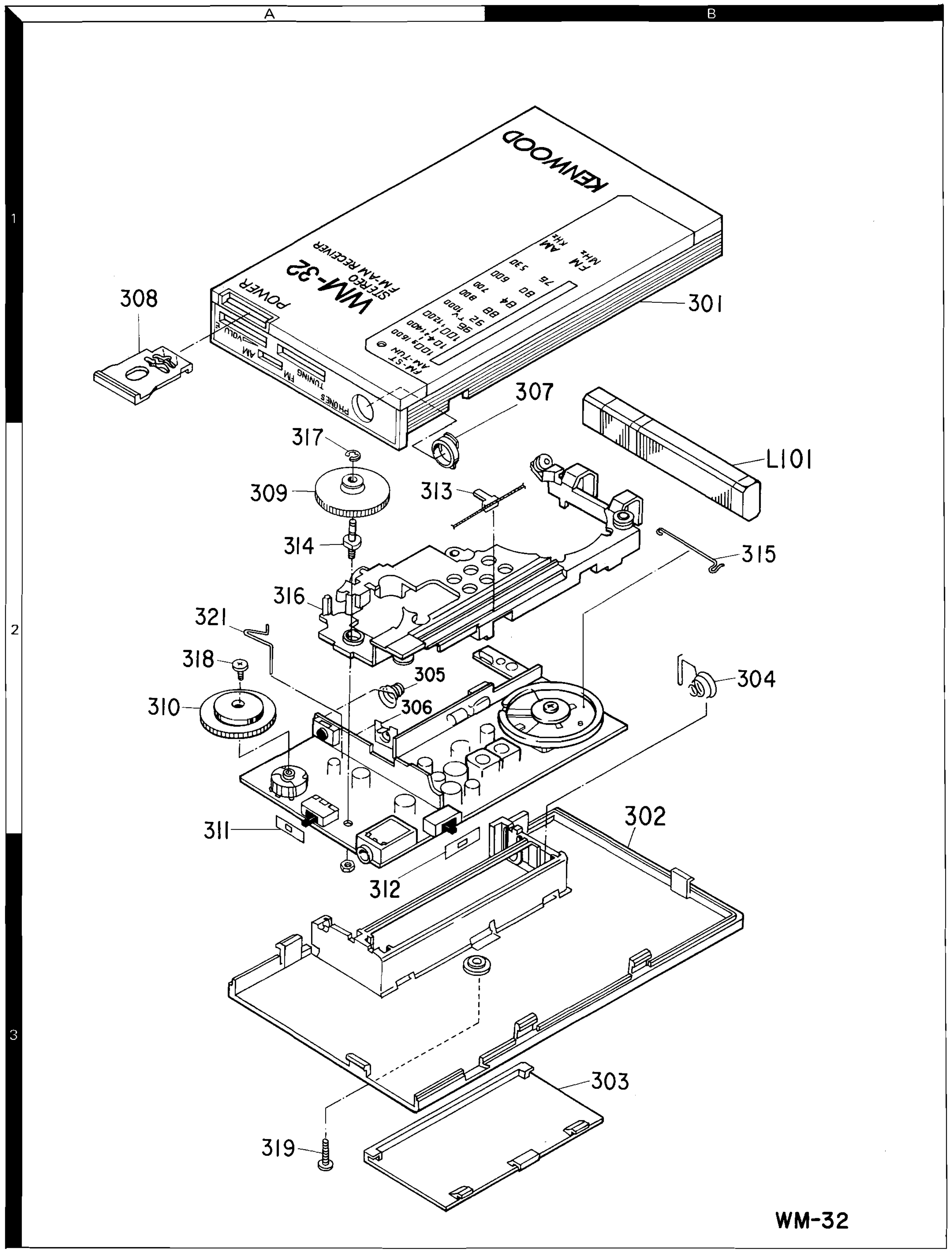
1. Combine the cases of the WM-32 and the headphone back to back.
2. Wrap the primary cover around the products so that "WM-32" and the headphone can be seen from the window.

K-type

for USA


Ear-pad is black
Mini head phone
(92152149)
L
R
WM-32
Cushion
(92933548)
Primery case
(92923313)
KENWOOD
WM-32
Accessory
Warranty card
FTZ sheel
Instruction manual

EXPLODED VIEW


A
B
1
2
3
KENWOOD
WM-32
STEREO
FM/AM RECEIVER
POWER
301
308
307
L101
317
309
313
314
315
316
321
318
305
306
304
310
302
311
312
303
319
WM-32

KENWOOD

STEREO FM-AM RECEIVER

WM-32

Q101 (V)

	1	2	3	4	5	6	7	8
FM	0.03	0.03	2.82	1.41	1.41	0.1	0.7	0
AM	0.96	0.96	0.1	1.41	1.41	0.27	2.88	0
	9	10	11	12	13	14	15	16
FM	0.93	2.82	2.82	2.82	2.61	2.61	2.61	2.82
AM	1.21	2.89	2.89	2.89	2.64	2.64	2.88	2.89

Q201 (V)

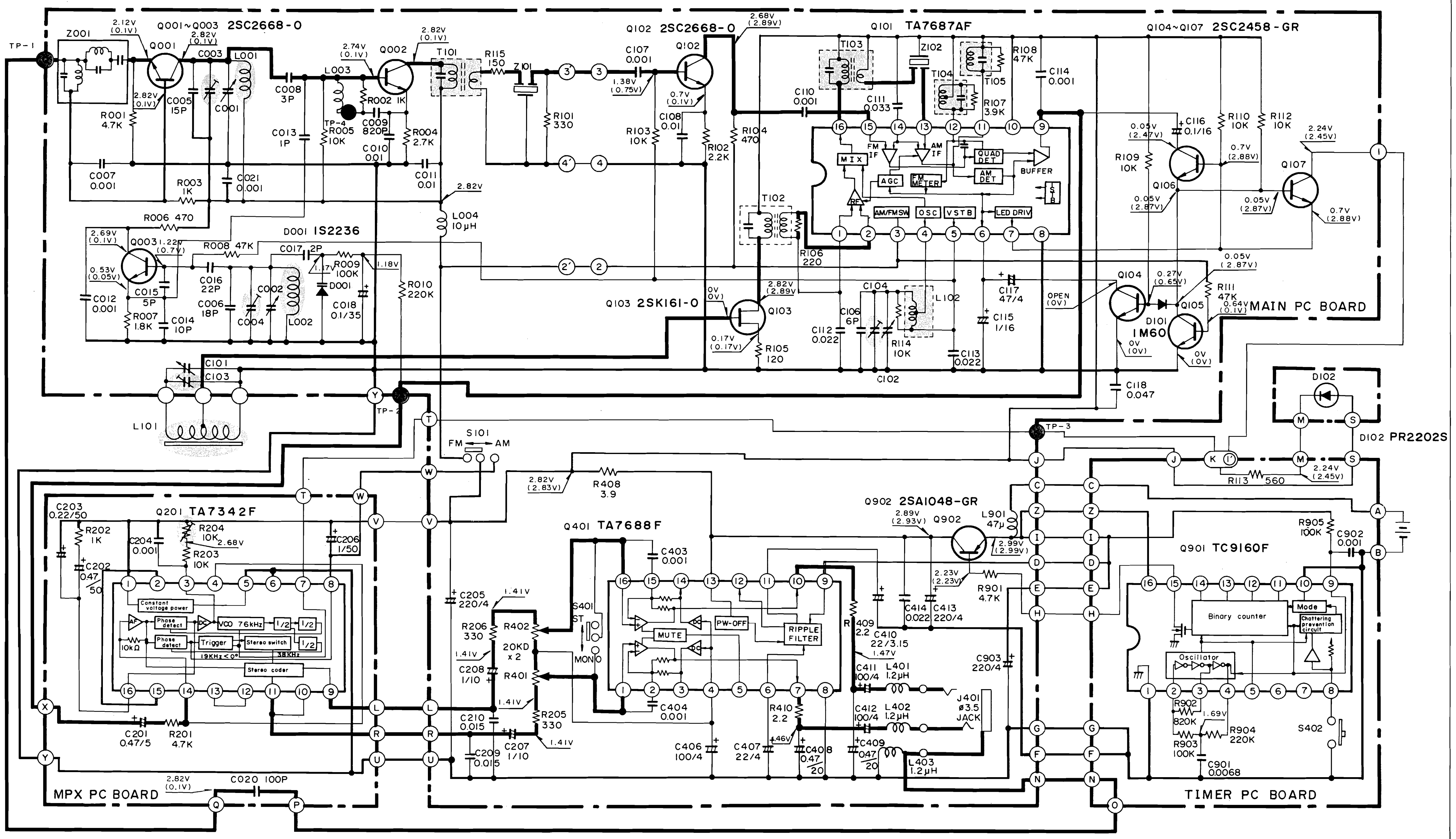
	1	2	3	4	5	6	7	8
FM	2.82	2.82	2.41	0.61	0	0	2.24	2.15
AM	2.89	2.89	2.28	0.61	0	0	2.45	2.89
	9	10	11	12	13	14	15	16
FM	0.94	0.94	0.94	0	0	0.61	2.82	2.12
AM	0.94	0.94	0.94	0	0	0.61	2.89	2.17

Q401 (V)

	1	2	3	4	5	6	7	8
AM/FM	1.41	1.41	1.41	1.41	0.06	2.21	1.46	0
	9	10	11	12	13	14	15	16
AM/FM	2.99	1.47	2.24	2.4	(AM 2.93)	1.41	1.41	1.41

Q901 (V)

	1	2	3	4	5	6	7	8
AM/FM	0	1.63	1.19	1.8	1.19	0	0	3.0
	9	10	11	12	13	14	15	16
AM/FM	2.97	0	3.0	3.0	3.0	0	0.02	3.0


A
B
C
D
E
F
G
H
1
2
3
4
5
6
TP-1
Z001
Q001~Q003 2SC2668-O
Q001
Q002
Q003
L001
L002
L003
L004 10μH
T101
R115 150
Z101
Q102 2SC2668-O
Q101 TA7687AF
T103
Z102
T104
T105
T102
Q104~Q107 2SC2458-GR
Q104
Q105
Q106
Q107
D001 1S2236
Q103 2SK161-O
D101 1M60
MAIN PC BOARD
C101
C103
L101
TP-2
TP-3
S101 FM AM
D102
D102 PR2202S
Q902 2SA1048-GR
Q902
L901 47μ
Q201 TA7342F
Q401 TA7688F
Q901 TC9160F
MIX
AGC
FM METER
AM/FM SW
OSC
VSTB
LED DRIV
QUAD DET
AM DET
BUFFER
Constant voltage power
Phase detect
VCO 76kHz
1/2
Trigger
Stereo switch
19KHz
38KHz
Stereo coder
MUTE
PW-OFF
RIPPLE FILTER
Binary counter
Mode
Chattering prevention circuit
Oscillator
S401 ST MONO
J401 ø3.5 JACK
S402
MPX PC BOARD
TIMER PC BOARD
C020 100P
R408 3.9
R113 560
R905 100K
C902 0.001
R901 4.7K
R902
R903 100K
R904 220K
C901 0.0068
R402 20KD x 2
R401
R205 330
R206 330
C205 220/4
C208 1/10
C210 0.015
C207 1/10
C209 0.015
C201 0.47/5
R201 4.7K
C203 0.22/50
R202 1K
C204 0.001
R204 10K
R203 10K
C206 1/50
C202 0.47 50
C403 0.001
C404 0.001
C406 100/4
C407 22/4
C408 0.47 20
C409 0.047 20
R409 2.2
R410 2.2
C410 22/3.15
C411 100/4
C412 100/4
L401 1.2μH
L402 1.2μH
L403 1.2μH
C414 0.022
C413 220/4
C903 220/4
C118 0.047
R111 47K
R109 10K
R110 10K
R112 10K
C116 0.1/16
C117 47/4
C115 1/16
C113 0.022
C112 0.022
C104
C106 6P
R114 10K
C102
R105 120
R106 220
R104 470
R102 2.2K
R103 10K
C108 0.01
C107 0.001
C110 0.001
C111 0.033
R108 47K
R107 3.9K
C114 0.001
R101 330
R002 1K
R004 2.7K
R005 10K
C008 3P
C009 820P
C010 .001
C011 0.01
C013 1P
C005 15P
C001
C007 0.001
R001 4.7K
R003 1K
C021 0.001
R006 470
R008 47K
C017 2P
R009 100K
C016 22P
C015 5P
C006 18P
C002
C004
C018 0.1/35
R010 220K
C012 0.001
R007 1.8K
C014 10P
TP-4
OPEN (0V)

POWER
WM-32
STEREO FM-AM RECEIVER
KENWOOD
FM MHz
AM kHz

SPECIFICATIONS

Frequency range:	FM 88 – 108 MHz AM 525 – 1605 kHz
Power requirements:	DC 3V, "AAA" (JIS UM-4) Cell x 2 pcs.
Power output:	30 mW + 30 mW (max.)
Jack:	Mini jack for stereo headphones (32 ohms)/earphone (8 ohms)
Dimensions (WxHxD):	56 x 91 x 12.8 mm
Weight:	85 g (Including batteries)
Accessories:	Stereo headphones

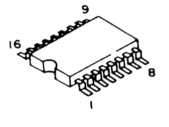
Kenwood follows a policy of continuous advancements in development. For this reason specifications may be changed without notice.

Kenwood poursuit une politique de progrès constants en ce qui doncerne le développement. Pour cette raison, les spécifications sont sujettes à modifications sans préavis.

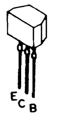
Kenwood strebt ständige, Verbesserungen in der Entwicklung an. Daher bleiben Änderungen der technisch Daten jederzeit vorbehalten.

- DC voltages are as measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments or/and units.
- Les tensions c.c. doivent être mesurées avec un voltmètre à haute impédance. Les valeurs peuvent différer légèrement du fait des variations inhérentes aux appareils et aux instruments de mesure individuels.
- Die angegebenen Gleichspannungswerte wurden mit einem hochohmigen. Voltmeter gemessen. Dabei schwanken die Meßwerte aufgrund von Unterschieden zwischen einzelnen instrumenten oder Geraten u.U. geringfügig.

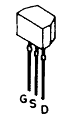
TA7342F
TA7687F
TA7688F
TC9160F



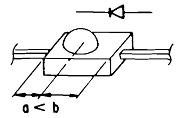
2SA1048
2SC2458
2SC2668



2SK161



PR2202S



Switches
1. S101: Band Switch (FM position)
2. S401: Mode Switch (ST position)
3. S402: Power Switch

①–④ Flexible PC Board
Ⓐ–Ⓩ DC Board – DC Board Direct Contact
Note: Ⓞ–Ⓟ Wiring
Green parts are chip component.

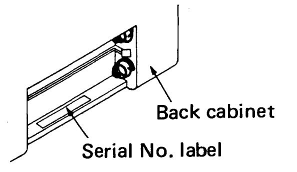
Band	No signal current
FM	27mA
AM	19mA

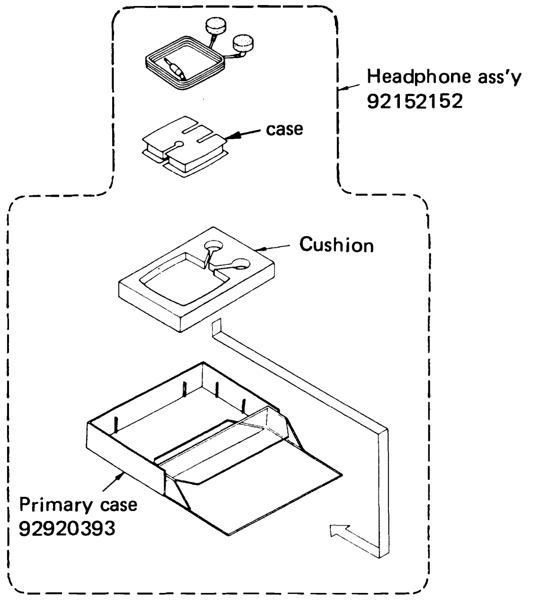
(minimum volume)

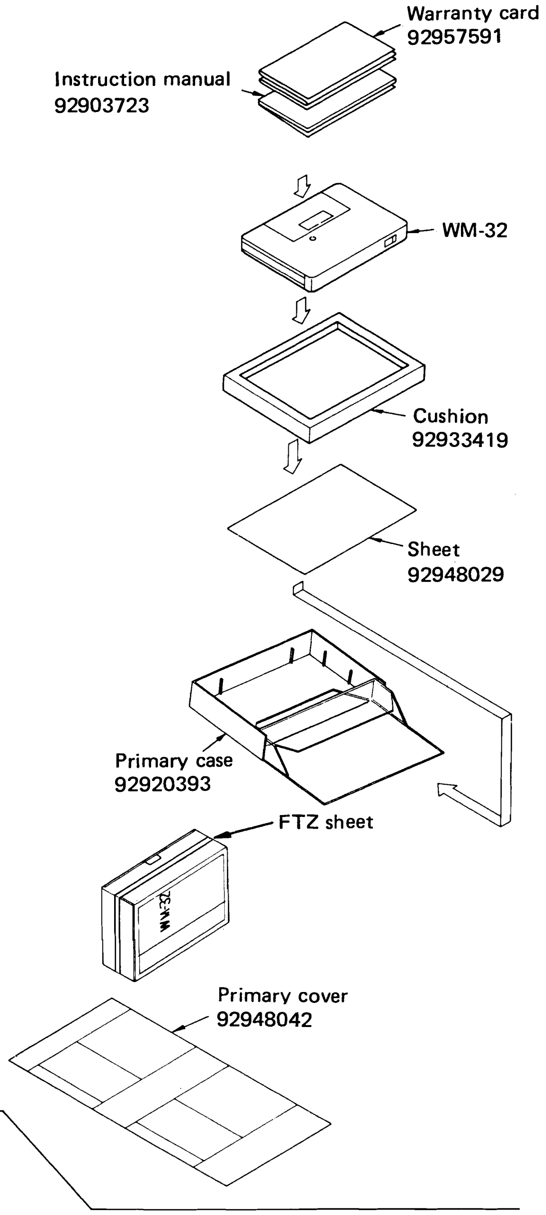
PACKING PROCEDURE

E-type

for Europe


Back cabinet
Serial No. label

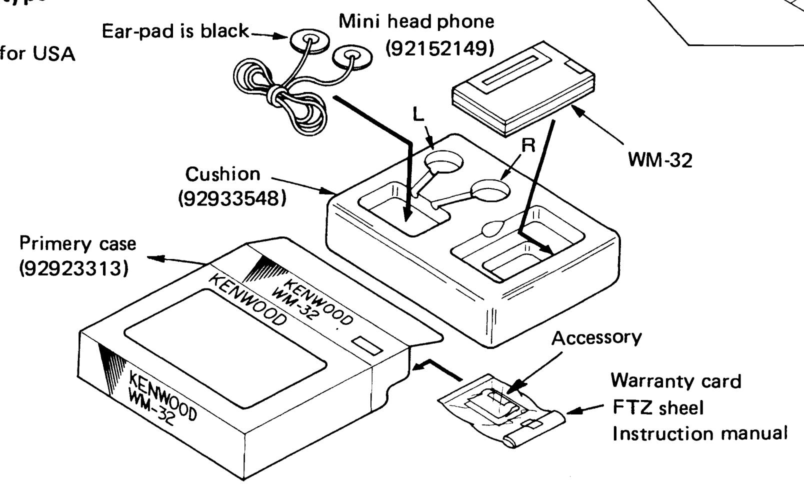

Headphone ass'y
92152152
case
Cushion
Primary case
92920393


Warranty card
92957591
Instruction manual
92903723
WM-32
Cushion
92933419
Sheet
92948029
Primary case
92920393
FTZ sheet
WM-32
Primary cover
92948042

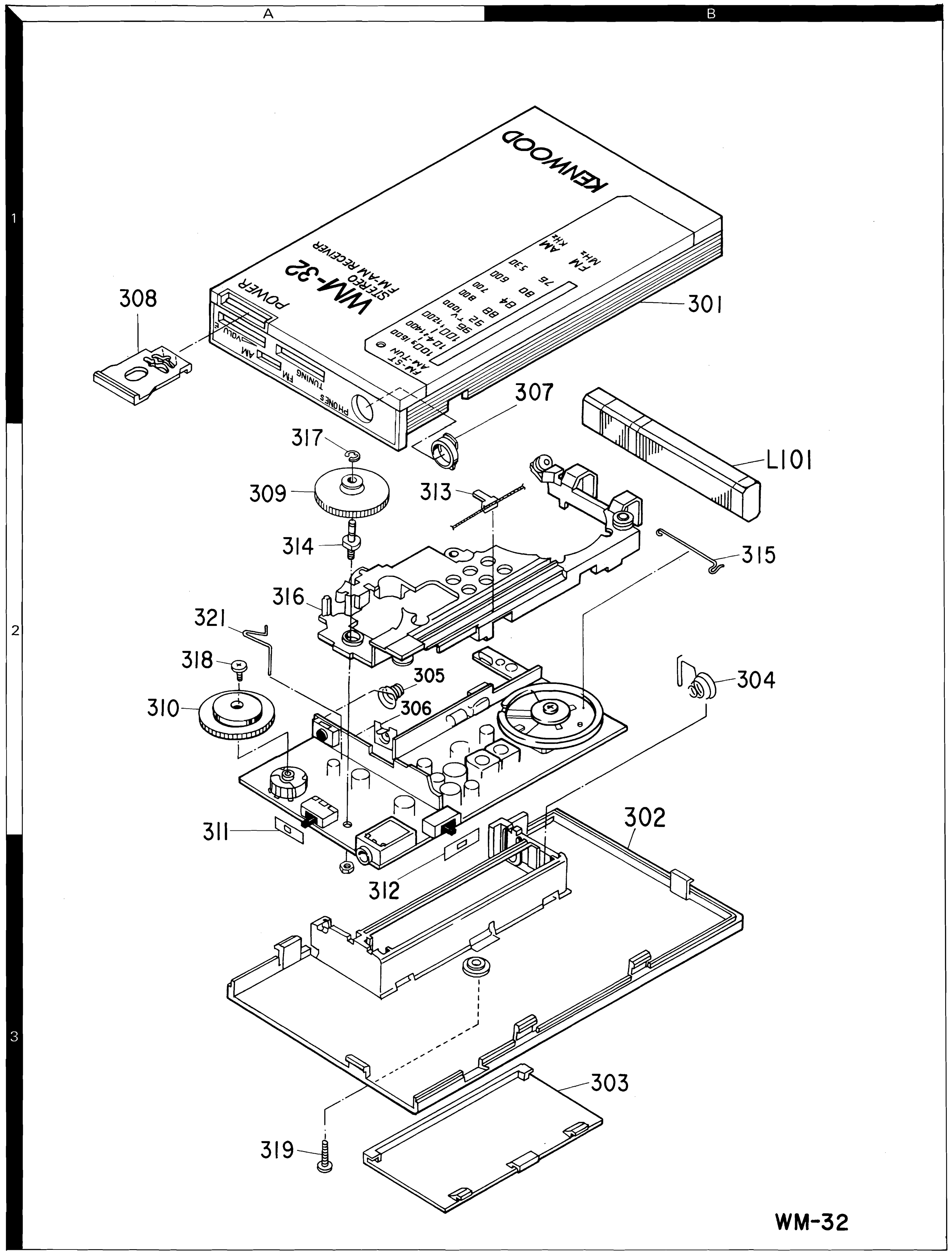
1. Combine the cases of the WM-32 and the headphone back to back.
2. Wrap the primary cover around the products so that "WM-32" and the headphone can be seen from the window.

K-type

for USA


Ear-pad is black
Mini head phone
(92152149)
L
R
WM-32
Cushion
(92933548)
Primery case
(92923313)
KENWOOD
WM-32
Accessory
Warranty card
FTZ sheel
Instruction manual

EXPLODED VIEW


A
B
1
2
3
308
301
307
L101
317
309
313
314
315
316
321
318
305
306
304
310
311
312
302
303
319
KENWOOD
WM-32
STEREO
FM/AM RECEIVER
POWER
WM-32

PARTS LIST

* New Parts
Parts without **Parts No.** are not supplied.
Les articles non mentionnes dans le **Parts No.** ne sont pas fournis.
Teile ohne **Parts No.** werden nicht geliefert.

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Desti-nation 仕向	Re-marks 備考
WM-32						
301	1B	*	92825220	FRONT CABINET ASSY		
302	2B	*	92882069	BACK CABINET		
303	3B	*	92882046	BATTERY COVER		
304	2B	*	95777254	BATTERY SPRING (A)		
305	2A	*	95777255	BATTERY SPRING (B)		
306	2A	*	92725256	BATTERY CONTACT		
307	1B	*	92875040	JACK COVER		
308	1A	*	92826412	KNOB (POWER)		
309	2A	*	92826402	KNOB (TUNING)		
310	2A	*	92826404	KNOB (VOLUME)		
311	2A	*	92753150	SWITCH COVER (A)		
312	3A	*	92753151	SWITCH COVER (B)		
313	2A	*	92741430	DIAL POINTER		
314	2A	*	92743328	TUNING SHAFT		
315	2B	*	95776606	DIAL SPRING		
316	2A	*	92718182	CHASSIS ASSY		
317	2A	*	92703117	E RING		
318	2A	*	92707819	SCREW		
319	3A	*	92707958	SCREW (BLACK)		
-		*	92152149	HEAD PHONE	K	
-		*	92152152	HEAD PHONE ASSY	E	
-		*	92903723	INSTRUCTION MANUAL		
-		*	92920393	PRIMARY BOX (PLASTIC CASE)	K	
-		*	92933548	CUSHION (PACKING FIXTURE)	E	
-		*	92948029	SHEET	K	
-		*	92948042	PRIMARY COVER	K	
-		*	92957591	WARRANTY CARD		
P.B.C.						
-		*	92308570	VARIABLE CAPACITOR		
C003,004			92309191	TRIMMING CAPACITOR 10PF		
C005		*	92311150	CHIP C 15PF J		
C006		*	92318180	CHIP C 18PF D		
C007		*	92360721	CERAMIC 1000PF M		
C008		*	92311209	CHIP C 2PF C		
C009		*	92314821	CHIP C 820PF K		
C010,011		*	92315103	CHIP C 0.01UF K		
C012		*	92314102	CHIP C 1000PF K		
C013		*	92311109	CHIP C 1PF C		
C014		*	92311100	CHIP C 10PF D		
C015		*	92311509	CHIP C 5PF C		
C016		*	92311220	CHIP C 22PF C		
C017		*	92311209	CHIP C 2PF C		
C018		*	92490116	TANTAL 0.1UF 35WV		
C020		*	92311101	CHIP C 100PF J		
C021		*	92314102	CHIP C 1000PF K		
C103,104		*	92309164	TRIMMING CAPACITOR		
C106		*	92311709	CHIP C 7PF D		
C107		*	92360721	CERAMIC 1000PF M		
C108		*	92315103	CHIP C 0.01UF K		
C110		*	92314102	CHIP C 1000PF K		
C111		*	92340202	CERAMIC 0.033UF N		
C112,113		*	92312223	CHIP C 0.022UF Z		
C114		*	92314102	CHIP C 1000PF K		

E: Scandinavia & Europe **H**:Audio Club **K**: USA **P**: Canada
S: South Africa **T**: England **U**: PX(Far East, Hawaii)
UE: AAFES(Europe) **X**: Australia **M**: Other Areas

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Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Desti-nation 仕向	Re-marks 備考
C115		*	92490053	TANTAL 1UF 16WV		
C116		*	92490041	ELECTRO 0.1UF 16WV		
C117		*	92440542	ELECTRO 47UF 4WV		
C118		*	92313473	CHIP C 0.047UF Z		
C201,202			92440532	ELECTRO 0.47UF 50WV		
C203			92440530	ELECTRO 0.22UF 50WV		
C204		*	92321314	MYLAR 1000PF J		
C205			92440516	ELECTRO 220UF 4WV		
C206			92440534	ELECTRO 1UF 50WV		
C207,208		*	92490100	TANTAL 1UF 10WV		
C209,210		*	92317153	CHIP C 0.015UF M		
C403,404		*	92314102	CHIP C 1000PF K		
C406			92440517	ELECTRO 100UF 4WV		
C407		*	92440540	ELECTRO 22UF 4WV		
C408,409		*	92490106	TANTAL 0.47UF 20WV		
C410			92490003	TANTAL 22UF 3.15WV		
C411,412			92440517	ELECTRO 100UF 4WV		
C413			92440516	ELECTRO 220UF 4WV		
C414		*	92312223	CHIP C 0.022UF Z		
C901		*	92314682	CHIP C 6800PF K		
C902		*	92314102	CHIP C 1000PF K		
C903			92440516	ELECTRO 220UF 4WV		
J401			92163861	JACK (HEAD PHONE) 3.5MN		
EP01		*	92192311	FLEXIBLE PC BOARD		
L001		*	92294482	COIL FM RF		
L002		*	92295156	COIL FM OSC		
L003		*	92235236	COIL		
L004		*	92241067	COIL 10UF		
L101		*	92242959	COIL AMｱﾝﾃﾅ		
L102		*	92245433	COIL AM OSC		
L401-403		*	92241069	COIL 1.2UH		
L901		*	92291161	COIL 47UH		
T101		*	92265859	IF TRANSFORMER FM IF		
T102		*	92264884	COIL AM RF		
T103		*	92264883	IF TRANSFORMER AM IF		
T104		*	92267431	IF TRANSFORMER FM		
T105		*	92266392	IF TRANSFORMER AM		
Z001		*	92153266	BAND-PASS FILTER		
Z101		*	92153268	CERAMIC FILTER 10.7MHZ		
Z102			92153295	CERAMIC FILTER		
R001		*	92550185	RD 4.7K J 2B		
R002,003		*	92521102	CHIP R 1K J 2A		
R004		*	92540515	RD 2.7K J 2B		
R005			92540522	RD 10K J 2B		
R006		*	92521471	CHIP R 470 J 2A		
R007		*	92521182	CHIP R 1.8K J 2A		
R008		*	92521473	CHIP R 47K J 2A		
R009		*	92521104	CHIP R 100K J 2A		
R010		*	92521224	CHIP R 220K J 2A		
R011		*	92521103	CHIP R 10K J 2A		
R101		*	92521331	CHIP R 330 J 2A		
R102			92540514	RD 2.2K J 2B		

E: Scandinavia & Europe **H**:Audio Club **K**: USA **P**: Canada
S: South Africa **T**: England **U**: PX(Far East, Hawaii)
UE: AAFES(Europe) **X**: Australia **M**: Other Areas

PARTS LIST

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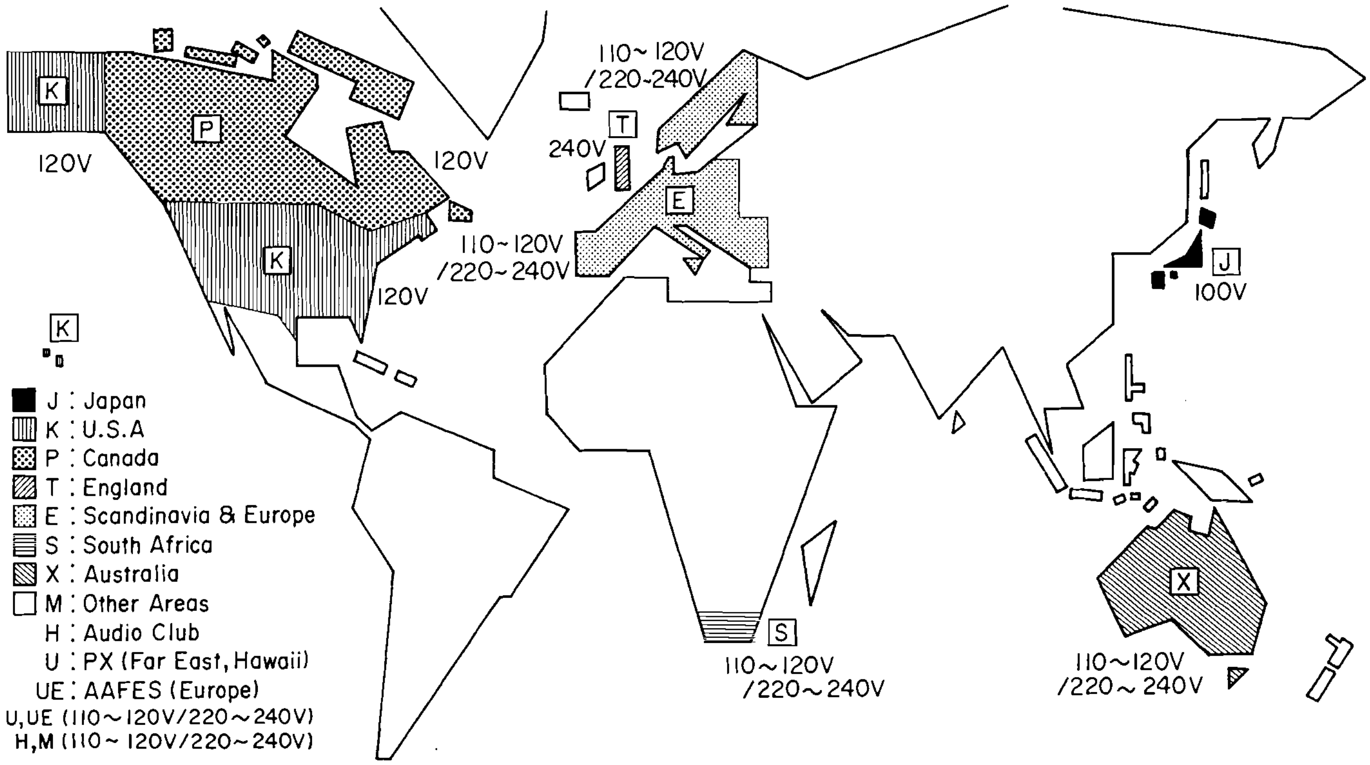
Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Desti-nation 仕向	Re-marks 備考
R103		*	92521103	CHIP R 10K J 2A		
R104		*	92521471	CHIP R 470 J 2A		
R105		*	92521121	CHIP R 120 J 2A		
R106		*	92521221	CHIP R 220 J 2A		
R107		*	92521392	CHIP R 3.9K J 2A		
R108		*	92521473	CHIP R 47K J 2A		
R109,110			92540522	RD 10K J 2B		
R111		*	92521473	CHIP R 47K J 2A		
R112			92540522	RD 10K J 2B		
R113		*	92521561	CHIP R 560 J 2A		
R114		*	92521103	CHIP R 10K J 2A		
R115		*	92521151	CHIP R 150 J 2A		
R201		*	92521472	CHIP R 4.7K J 2A		
R202		*	92521102	CHIP R 1K J 2A		
R203		*	92521103	CHIP R 10K J 2A		
R204		*	92658713	VARIABLE RESISTOR 10K(B)		
R205,206		*	92521331	CHIP R 330 J 2A		
R401,402		*	92614407	VARIABLE RESISTOR 20K(B)		
R408		*	92521399	CHIP R 3.9 J 2A		
R409,410		*	92521229	CHIP R 2.2 J 2A		
R901		*	92521472	CHIP R 4.7K J 2A		
R902		*	92521824	CHIP R 820K J 2A		
R903		*	92521104	CHIP R 100K J 2A		
R904		*	92521224	CHIP R 220K J 2A		
R905		*	92521104	CHIP R 100K J 2A		
S101		*	92196276	SLIDE SWITCH FM/AM		
S401			92196171	SLIDE SWITCH MONO/ST		
S402		*	92196277	TACT SWITCH		
D001			1S2236	DIODE		
D101			1M60	DIODE		
D102		*	92115523	LED		
Q001-003			2SC2668(O)	TRANSISTOR		
Q101		*	TA7687AF	IC		
Q102			2SC2668(O)	TRANSISTOR		
Q103		*	2SK161(O)	TRANSISTOR		
Q104-107			2SC2458(GR)	TRANSISTOR		
Q201			TA7342F	IC		
Q401			TA7688F	IC		
Q901		*	TC9160F	IC		
Q902			2SA1048(GR)	TRANSISTOR		

E: Scandinavia & Europe **H**:Audio Club **K**: USA **P**: Canada
S: South Africa **T**: England **U**: PX(Far East, Hawaii)
UE: AAFES(Europe) **X**: Australia **M**: Other Areas

WORLD MAP & AREA CODE


K
120V
P
120V
K
120V
K
110~120V
/220~240V
T
240V
E
110~120V
/220~240V
J
100V
S
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X
110~120V
/220~240V
■ J : Japan
▥ K : U.S.A
▩ P : Canada
▨ T : England
▩ E : Scandinavia & Europe
▤ S : South Africa
▧ X : Australia
☐ M : Other Areas
H : Audio Club
U : PX (Far East, Hawaii)
UE : AAFES (Europe)
U, UE (110~120V/220~240V)
H, M (110~120V/220~240V)

Note:

Component and circuitry are subject to modification to insure best operation under differing local conditions. This manual is based on, the U.S. (K) standard, and provides information on regional circuit modification through use of alternate schematic diagrams, and information on regional component variations through use of parts list.

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